

MS-DRG Conversion Update

Janice Bonazelli, 3M

Rhonda Butler, 3M

ICD-9-CM Coordination and
Maintenance Committee

March 11, 2009

ICD-10 MS-DRG Conversion

- MS-DRGs conversion process
- MS-DRG ICD-10 conversion report
 - Conversion of all medical DRGs is complete
 - Conversion of surgical DRGs is underway
 - Appendices still to be converted
 - Final ICD-10 version of MS-DRGs will be subject to rulemaking
- ICD-10 MS-DRG definitions manual format options

Condensed ICD-10 Descriptions

For this presentation—

Examples may contain condensed codes and descriptions

- All ICD-10 Codes—An asterisk (*) means all valid possibilities for codes in that category or subcategory are included
 - *A00* Cholera (3 codes)*
 - All three ICD-10-CM cholera codes apply to the example
- ICD-10-PCS Codes—All valid possibilities for an axis of classification are displayed in square brackets
 - *0DN9[034]ZZ Release Duodenum (3 codes)*
 - All three ICD-10-PCS approaches apply to the example

MS-DRG Conversion Goals

- Coded in I-9 or I-10, the same patient is assigned to the same MS-DRG
- Clinically equivalent
- Definitions manual has familiar look and feel

MDC 6, DISEASES & DISORDERS OF THE DIGESTIVE SYSTEM

A00* Cholera (3 codes)
A020 Salmonella enteritis
A03* Shigellosis (6 codes)
A04* Other bacterial intestinal infections (10 codes)
A050 Foodborne staphylococcal intoxication
A052 Foodborne Clostridium perfringens [Clostridium welchii] intoxication
A053 Foodborne Vibrio parahaemolyticus intoxication
A054 Foodborne Bacillus cereus intoxication
A055 Foodborne Vibrio vulnificus intoxication
A058 Other specified bacterial foodborne intoxications
A059 Bacterial foodborne intoxication, unspecified

MS-DRG Conversion Requirements

- Uses only I-10 codes
- Replicates current DRG logic
 - Minor departures where necessary

DRG 335 Peritoneal adhesiolysis w MCC
DRG 336 Peritoneal adhesiolysis w CC
DRG 337 Peritoneal adhesiolysis w/o CC/MCC

Operating Room Procedures

0DN8[0234]ZZ Release Small Intestine (4 codes)
0DN9[0234]ZZ Release Duodenum (4 codes)
0DNA[0234]ZZ Release Jejunum (4 codes)
0DNB[0234]ZZ Release Ileum (4 codes)
0DNC[034]ZZ Release Ileocecal Valve (3 codes)
0DN[EFG][0234]ZZ Release Large Intestine (12 codes)
0DNH[0234]ZZ Release Cecum (4 codes)
0DNJ[0234]ZZ Release Appendix (4 codes)
0DNK[0234]ZZ Release Ascending Colon (4 codes)
0DNL[0234]ZZ Release Transverse Colon (4 codes)
0DNM[0234]ZZ Release Descending Colon (4 codes)
0DNN[0234]ZZ Release Sigmoid Colon (4 codes)
0DN[ST]*** Release Omentum (6 codes)
0DNV*** Release Mesentery (3 codes)
0DNW*** Release Peritoneum (3 codes)

ICD-10 to ICD-9 GEM entries

MS-DRG Conversion Principle

Benign neoplasm of colon, rectum, anus and anal canal
D120 Benign neoplasm of cecum
D121 Benign neoplasm of appendix
D122 Benign neoplasm of ascending colon
D123 Benign neoplasm of transverse colon
D124 Benign neoplasm of descending colon
D125 Benign neoplasm of sigmoid colon
D126 Benign neoplasm of colon, unspecified
D127 Benign neoplasm of rectosigmoid junction
D128 Benign neoplasm of rectum
D129 Benign neoplasm of anus and anal canal
ICD-9 codes...
2113 Benign neoplasm lg bowel
2114 Benign neopl rectum/anus

Wherever possible,
assign an I-10 code
to the same DRG(s)
as the I-9 code it
was translated to in
the I-10 to I-9 GEM

393 Other digestive system diagnoses w MCC
394 Other digestive system diagnoses w CC
395 Other digestive system diagnoses w/o CC/MCC

PRINCIPAL DIAGNOSIS

A511 Primary anal syphilis
A546 Gonococcal infection of anus and rectum
A563 Chlamydial infection of anus and rectum
B0081 Herpesviral hepatitis
Benign neoplasm of colon, rectum, anus and anal canal (10 codes)
D120 Benign neoplasm of cecum
D121 Benign neoplasm of appendix
D122 Benign neoplasm of ascending colon
D123 Benign neoplasm of transverse colon
D124 Benign neoplasm of descending colon
D125 Benign neoplasm of sigmoid colon
D126 Benign neoplasm of colon, unspecified
D127 Benign neoplasm of rectosigmoid junction
D128 Benign neoplasm of rectum
D129 Benign neoplasm of anus and anal canal

ICD-10 definitions manual

Find and Replace Diagnosis Codes

**DRG385 INFLAMMATORY BOWEL
DISEASE W MCC**
**DRG386 INFLAMMATORY BOWEL
DISEASE W CC**
**DRG387 INFLAMMATORY BOWEL
DISEASE W/O CC/MCC**

PRINCIPAL DIAGNOSIS
5550 Reg enteritis, sm intest
5551 Reg enteritis, lg intest
5552 Reg enterit sm/lg intest
5559 Regional enteritis NOS

is replaced by

of ICD-9-CM codes: 4

DRG 385 Inflammatory bowel disease w MCC
DRG 386 Inflammatory bowel disease w CC
DRG 387 Inflammatory bowel disease w/o CC/MCC

Principal Diagnosis

K5000 Crohn's disease of small intestine without complications
K50011 Crohn's disease of small intestine with rectal bleeding
K50012 Crohn's disease of small intestine with intestinal obstruction
K50013 Crohn's disease of small intestine with fistula
K50014 Crohn's disease of small intestine with abscess
K50018 Crohn's disease of small intestine with other complication
K50019 Crohn's disease of small intestine with unspecified complications
K5010 Crohn's disease of large intestine without complications
K50111 Crohn's disease of large intestine with rectal bleeding
K50112 Crohn's disease of large intestine with intestinal obstruction
K50113 Crohn's disease of large intestine with fistula
K50114 Crohn's disease of large intestine with abscess
K50118 Crohn's disease of large intestine with other complication
K50119 Crohn's disease of large intestine with unspecified complications
K5080 Crohn's disease of both small and large intestine without complications
K50811 Crohn's disease of both small and large intestine with rectal bleeding
K50812 Crohn's disease of both small and large intestine with intestinal obstruction
K50813 Crohn's disease of both small and large intestine with fistula
K50814 Crohn's disease of both small and large intestine with abscess
K50818 Crohn's disease of both small and large intestine with other complication

of ICD-10-CM codes: 28

Find and Replace Procedure Codes

DRG335 PERITONEAL
ADHESIOLYSIS W MCC
DRG336 PERITONEAL
ADHESIOLYSIS W CC
DRG337 PERITONEAL
ADHESIOLYSIS W/O CC/MCC
OPERATING ROOM
PROCEDURES
5451 Lap periton adhesiolysis
5459 Oth periton adhesiolysis

of ICD-9-CM codes: 2

of ICD-10-PCS codes: 112

PCS root operation definition
Release: Freeing a body part
from an external physical
constraint

is replaced by

DRG 335 Peritoneal adhesiolysis w MCC

DRG 336 Peritoneal adhesiolysis w CC

DRG 337 Peritoneal adhesiolysis w/o CC/MCC

Operating Room Procedures: lysis

0DN80ZZ Release Small Intestine, Open Approach

0DN82ZZ Release Small Intestine, Open Endoscopic Approach

0DN84ZZ Release Small Intestine, Percutaneous Approach

0DN86ZZ Release Small Intestine, Percutaneous Endoscopic Approach

0DN88ZZ Release Small Intestine, Percutaneous Endoscopic Approach

0DN90ZZ Release Duodenum, Open Approach

0DN92ZZ Release Duodenum, Open Endoscopic Approach

0DN93ZZ Release Duodenum, Percutaneous Approach

0DN94ZZ Release Duodenum, Percutaneous Endoscopic Approach

0DNA0ZZ Release Jejunum, Open Approach

0DNA2ZZ Release Jejunum, Open Endoscopic Approach

0DNA3ZZ Release Jejunum, Percutaneous Approach

0DNA4ZZ Release Jejunum, Percutaneous Endoscopic Approach

0DNB0ZZ Release Ileum, Open Approach

0DNB2ZZ Release Ileum, Open Endoscopic Approach

0DNB3ZZ Release Ileum, Percutaneous Approach

0DNB4ZZ Release Ileum, Percutaneous Endoscopic Approach

0DNE0ZZ Release Large Intestine, Open Approach

0DNE2ZZ Release Large Intestine, Open Endoscopic Approach

Conversion of MS-DRGs

- At first, conversion of MS-DRGs to I-10 appeared more difficult than it turned out to be
- MS-DRGs are composed of logical relationships among lists of I-9 codes
 - Conversion to I-10 leaves the logic of MS-DRGs unchanged
- *Only* the I-9 lists of codes that underlie MS-DRGs need to be converted
 - The conversion of the I-9 code lists to I-10 code lists is straightforward
 - A process of “find and replace”
 - Can be partially automated

MS-DRGs Conversion Summary

	Diagnosis codes	Procedure codes	Total
No. of unique lists in MS-DRGs	~200	~300	~500
Codes in MDC 6 lists auto-replaced by GEMs	99%	91%	95%
Codes in MDC 6 lists auto-replaced by GEMs and modified by clinical review	1%	9%	5%
Codes in remaining MDC lists auto-replaced by GEMs and modified by clinical review	<1%	<2%	<2%

- A fixed, manageable number of lists in MS-DRGs
- The GEMs produce 95% of the mapping without any need for review
- The remaining 5% is based on MDC 6
 - Need for review of the remaining MDCs is expected to steadily decrease
 - As the rules derived for MDC 6 are applied to the remaining MDCs, fewer codes need clinical review

Issues Discovered in Converting MS-DRGs

- Overly broad I-9 procedure codes
 - Lack of anatomic specificity, NOS procedures
 - Require list-specific criteria for identifying the appropriate anatomic subset of PCS codes that belong on a list
- I-9 code conflicts
 - When an I-10 code does not contain a distinction found in two or more I-9 codes, all the I-9 codes are mapped to the same I-10 code
 - A conflict exists if the I-9 codes are in different MS-DRGs
 - This is to be expected between code sets with significant differences in design and structure

Overly Broad I-9 Procedure Codes

Because PCS codes always specify body part, approach and device, 261 PCS codes are translated to 92.27.

- Should an I-9 procedure code be replaced with *all* associated PCS codes *everywhere* an I-9 code is listed?
 - A PCS code may be irrelevant to a list because of its anatomic or root operation specificity
- ~200 overly broad I-9 procedure codes identified

Examples of Overly Broad I-9 Codes

I-9	Description
92.27	Radioactive elem implant
86.09	Skin & subq incision NEC
83.82	Muscle or fascia graft
81.96	Other repair of joint
80.19	Other arthrotomy NEC
77.19	Bone incis w/o div NEC
39.50	Angio oth non-coronary
39.31	Suture of artery
39.29	Vasc shunt & bypass NEC
38.21	Blood vessel biopsy
01.24	Other craniotomy
04.04	Peripheral nerve incis NEC

Solution for I-9 Overly Broad Procedure Codes

- Limit the assignment of PCS codes associated with overly broad I-9 codes to anatomic sites corresponding to each MDC

MDC 6 Example:

MS-DRGs 356, 357, 358 Other Digestive System O.R. Procedures

92.27 Implantation or Insertion of Radioactive Elements

- For procedure 92.27, only 10 of the 261 PCS codes are assigned to MDC 6

Likely in MDC 6

0DH571Z Insertion of
Radioactive Element into
Esophagus, Via Natural or
Artificial Opening
0DHP81Z Insertion of
Radioactive Element into
Rectum, Via Natural or
Artificial Opening Endoscopic

Extremely Unlikely in MDC 6

08H0X1Z Insertion of Radioactive
Element into Right Eye, External
Approach
0BHL01Z Insertion of Radioactive
Element into Left Lung, Open
Approach
0HHU31Z Insertion of Radioactive
Element into Left Breast,
Percutaneous Approach

I-9 Code Conflicts

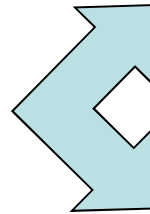
- I-9 codes may contain detail not pertinent to current understanding of disease or to a PCS axis of classification
 - I-9 diagnosis codes may use outmoded terminology
 - I-9 procedure codes may include diagnosis information (e.g., drainage of a cyst, drainage of an abscess)
- In such cases, the I-10 code is assigned to the I-9 code that results in the most appropriate MS-DRG assignment

I-9 Code Conflicts

Conflict: Where an I-10 code is assigned to more than one I-9 code *and* the I-9 codes are assigned to different MS-DRGs

*109.89 Other specified
rheumatic heart
diseases*
Rheumatic disease of
pulmonary valve

109.89 combines the descriptions of two I-9 codes. All other rheumatic diseases of the heart currently classified have unique codes in ICD-10-CM, and according to frequency data I-9 code 398.99 is rarely used.



*398.99 Other rheumatic heart
diseases*

in MDC 5 DRG 314,315,316
Other circulatory system
diagnoses

*397.1 Rheumatic diseases
of pulmonary valve*

in MDC 5 DRG 306,307
Cardiac congenital & valvular
disorders

To resolve the conflict for I-10 code 109.89, the I-10 code is assigned to the I-9 code 397.1, which results in the most appropriate MS-DRG assignment

DRG Logic Changes

- In general, MS-DRG conversion involves replacing lists of I-9 codes without changing underlying DRG logic
- In a few cases, DRG logic for I-10 MS-DRGs must be modified in order to *replicate* the I-9 DRG logic
- *Example: Radical Pancreaticoduodenectomy*

I-10 Procedure code	Replaces I-9 procedure code	In MS-DRG	Logic Change to replicate?
0FTG0ZZ Resection of Pancreas, Open Approach	526 Total Pancreatectomy	405-407	NO
0DT90ZZ Resection of Duodenum, Open Approach	4562 Other Partial Resection Of Small Intestine	329-331	NO
0FTG0ZZ Resection of Pancreas, Open Approach AND 0DT90ZZ Resection of Duodenum, Open Approach	527 Radical Pancreaticoduodenectomy	326-328	YES

Summary

- Conversion of ICD-9 based systems and processes to ICD-10 is straightforward
 - GEMs facilitate conversion
- Conversion of MS-DRGs to ICD-10 codes well underway
 - Medical DRGs converted and initial review complete
 - Surgical DRGs auto-replaced by GEMs, translations being reviewed and finalized
 - Appendices still to be converted
- Preliminary version slated for internal CMS review beginning October 2009
- ICD-10 MS-DRGs definitions manual to be posted on CMS website with the annual ICD-10 update at the end of 2009
- Final version of MS-DRGs using ICD-10 codes will be subject to the rule-making process

ICD-10 MS-DRG Definitions Manual

Format Options

ICD-10 MS-DRG Definitions Manual

- MDC 06 currently posted in two different formats
 - list format
 - condensed format
- Additional format options available
- Seek public feedback on preferred format
 - Send comments to CMS

List Format

- Lists all ICD-10 codes with their full descriptions

MS-DRG v26.0 MDC 06 Major Small and Large Bowel Procedures ICD-10-CM and ICD-10-PCS Working Definitions

Major Small and Large Bowel Procedures			
<i>MCC</i>	<i>CC</i>		<i>DRG</i>
Yes			329
No	Yes		330
No	No		331

329 Major small & large bowel procedures w MCC

330 Major small & large bowel procedures w CC

331 Major small & large bowel procedures w/o CC/MCC

OPERATING ROOM PROCEDURES

0D19074 Bypass Duodenum to Cutaneous with Autologous Tissue Substitute, Open Approach

0D19079 Bypass Duodenum to Duodenum with Autologous Tissue Substitute, Open Approach

0D1907A Bypass Duodenum to Jejunum with Autologous Tissue Substitute, Open Approach

0D1907B Bypass Duodenum to Ileum with Autologous Tissue Substitute, Open Approach

0D1907L Bypass Duodenum to Transverse Colon with Autologous Tissue Substitute, Open Approach

0D190J4 Bypass Duodenum to Cutaneous with Synthetic Substitute, Open Approach

0D190J9 Bypass Duodenum to Duodenum with Synthetic Substitute, Open Approach

0D190JA Bypass Duodenum to Jejunum with Synthetic Substitute, Open Approach

0D190JB Bypass Duodenum to Ileum with Synthetic Substitute, Open Approach

0D190JL Bypass Duodenum to Transverse Colon with Synthetic Substitute, Open Approach

Condensed Format

- Lists ICD-10 codes in condensed notation, followed by number of codes included

MS-DRG v26.0 MDC 06 Major Small and Large Bowel Procedures ICD-10-CM and ICD-10-PCS Working Definitions

Major Small and Large Bowel Procedures

MCC	CC	DRG
Yes		329
No	Yes	330
No	No	331

329 Major small & large bowel procedures w MCC

330 Major small & large bowel procedures w CC

331 Major small & large bowel procedures w/o CC/MCC

OPERATING ROOM PROCEDURES

0D19***

Bypass Duodenum (61 codes)

0D1[AB]***

Bypass Small Intestine Region (230 codes)

0D1[HKLMN][0348][7JKZ][4HKLMNP] Bypass Large Intestine Region (303 codes)

0D78[034][DZ]Z

Dilation of All Small Intestine (6 codes)

0D79[034][DZ]Z

Dilation of Duodenum (6 codes)

0D7[AB][034][DZ]Z

Dilation of Small Intestine Region (12 codes)

0D7C[034][DZ]Z

Dilation of Ileocecal Valve (6 codes)

0D7E[034][DZ]Z

Dilation of All Large Intestine (6 codes)

0D7[FGHKLMN][034][DZ]Z

Dilation of Large Intestine Region (42 codes)

0D7P[034][DZ]Z

Dilation of Rectum (6 codes)

PCS Option: Table Format

- Lists ICD-10-PCS codes in table format, includes total number of codes

Major Small and Large Bowel Procedures		1483 ICD-10-PCS codes	
<i>Section</i> 0 Medical and Surgical <i>Body System</i> D Gastrointestinal System <i>Operation</i> 1 Bypass			
<i>Body Part</i>	<i>Approach</i>	<i>Device</i>	<i>Qualifier</i>
9 Duodenum	0 Open	7 Autologous Tissue Substitute	4 Cutaneous
	4 Percutaneous Endoscopic	J Synthetic Substitute	9 Duodenum
	8 Via Natural or Artificial Opening Endoscopic	K Nonautologous Tissue Substitute	A Jejunum
		Z No Device	B Ileum
9 Duodenum	3 Percutaneous	J Synthetic Substitute	L Transverse Colon
A Jejunum	0 Open 4 Percutaneous Endoscopic 8 Via Natural or Artificial Opening Endoscopic	7 Autologous Tissue Substitute J Synthetic Substitute K Nonautologous Tissue Substitute Z No Device	4 Cutaneous
			A Jejunum
			B Ileum
			H Cecum
			K Ascending Colon
			L Transverse Colon
			M Descending Colon
			N Sigmoid Colon
P Rectum			
Q Anus			

PCS Option:

Root Operation Format

- Condensed description organized by root operation, includes total number of codes

Major Small and Large Bowel Procedures 1483 ICD-10-PCS codes

Bypass *Altering the route of passage of the contents of a tubular body part*

Duodenum	0D19***	61 codes
Small Intestine Region	0D1[AB]***	230 codes
Large Intestine Region	0D1[HKLMN][0348][7JKZ][4HKLMNP]	303 codes

Dilation *Expanding an orifice or the lumen of a tubular body part*

Small Intestine, All	0D78[034][DZ]Z	6 codes
Duodenum	0D79[034][DZ]Z	6 codes
Small Intestine Region	0D7[AB][034][DZ]Z	12 codes
Ileocecal Valve	0D7C[034][DZ]Z	6 codes
Large Intestine, All	0D7E[034][DZ]Z	6 codes

PCS Option:

Body Part Format

- Condensed description organized by body part, includes total number of codes

Major Small and Large Bowel Procedures 1483 ICD-10-PCS codes		
<u>Small Intestine, All</u>		
Dilation	0D78[034][DZ]Z	6 codes
Fragmentation	0DF8[03478]ZZ	5 codes
<u>Duodenum</u>		
Bypass	0D19***	61 codes
Dilation	0D79[034][DZ]Z	6 codes
Excision	0DB97ZZ	
Fragmentation	0DF9[03478]ZZ	5 codes
<u>Small Intestine Region</u>		
Bypass	0D1[AB]***	230 codes
Dilation	0D7[AB][034][DZ]Z	12 codes
Fragmentation	0DF[AB][03478]ZZ	10 codes
<u>Ileocecal Valve</u>		
Dilation	0D7C[034][DZ]Z	6 codes
<u>Large Intestine, All</u>		
Dilation	0D7E[034][DZ]Z	6 codes
Excision	0DBE[0348]ZZ	4 codes
Fragmentation	0DFE[03478]ZZ	5 codes

Comments?

- Send feedback on the MS-DRGs I-10 definitions format to CMS



The screenshot shows the CMS website with the following structure:

- HHS.gov** header with the tagline "Improving the health, safety and well-being of America".
- CMS/ Centers for Medicare & Medicaid Services** sub-header with a search bar.
- Navigation Menu:**
 - Home | Medicare | Medicaid | SCHIP | About CMS | Regulations & Guidance | Research, Statistics, Data & Systems | Outreach & Education | Tools
 - People with Medicare & Medicaid | Questions | Careers | Newsroom | Contact CMS | Acronyms | Help | Email | Print
- Breadcrumb:** CMS Home > Medicare > ICD-10 > 2009 ICD-10-PCS
- Main Content Area:**

ICD-10	2009 ICD-10-PCS
<ul style="list-style-type: none">» Overview» 2009 ICD-10-PCS» 2008 ICD-10-PCS» 2009 ICD-10-CM» 2008 ICD-10-CM» Statute/ Regulations/ Program Instructions» Educational Resources» Announcements and Communications» CMS Sponsored Calls» ICD-9-CM Coordination and Maintenance Committee Meetings	<p>The 2009 ICD-10-PCS files below contain information on the new procedure coding system, ICD-10-PCS, that is being developed as a replacement for ICD-9-CM, Volume 3.</p> <p>Downloads</p> <ul style="list-style-type: none">2009 Version - What's New [PDF, 75KB]2009 Code Tables and Index [ZIP, 15.7MB]2009 Mapping - "ICD-10-PCS to ICD-9-CM" and "ICD-9-CM to ICD-10-PCS"; and User Guide, Reimbursement Guide, Diagnosis, and Procedures [ZIP, 1.2MB]2009 Code Descriptions - Long Format, Table Format and README files [ZIP, 433KB]2009 Development of the ICD-10 Procedure Coding System (ICD-10-PCS) [PDF, 1.51MB]2009 ICD-10-PCS Reference Manual and Slides [ZIP, 3.9MB]

Summary

- ICD-10 MS-DRGs definitions manual to be posted on CMS website with the annual ICD-10 update at the end of 2009
- CMS ICD-10 website is
 - <http://www.cms.hhs.gov/ICD10/>
- Final version of MS-DRGs using ICD-10 codes will be subject to the rule-making process